STEVAL-ISA191V1

5 V - 12 V, 15 W double output isolated flyback converter based on VIPer37LE

Data brief

Features
- Universal input mains range: 85 – 265 VAC
  frequency: 50 – 60 Hz
- Output voltage1: 5 V / 1.2 A
- Output voltage2: 12 V / 0.75 A
- Very compact size
- Stand-by mains consumption: < 40 mW at 230 VAC
- Average efficiency: > 75%
- EMI: according to EN55022-Class-B
- RoHS compliant

Description
The STEVAL-ISA191V1 evaluation board implements an isolated flyback double output (5 V / 1.2 A and 12 V / 0.75 A) 15 W wide range mains developed for general purpose applications.

The core of the application is the VIPer37LE, a new Off-line high Voltage Converter from the VIPerPlus family. The device is a high-voltage converter that intelligently integrates an 800 V rugged power MOSFET with PWM current-mode control.

The evaluation board features a small size, minimal BOM, high efficiency and low standby consumption. Extremely low consumption under no-load conditions is ensured thanks to burst mode operation that reduces the average switching frequency and minimizes all frequency related losses.

VIPer37LE operates at 60 kHz fixed frequency. Frequency jittering is implemented to help meet electromagnetic disturbance standards, and the device implements several protections, including overvoltage, overload, output short circuit, secondary winding short, hard transformer saturation protection and brown out protection, for improved design safety and reliability.
1 Schematic diagram

Figure 1: STEVAL-ISA191V1 circuit schematic
2 Revision history

<table>
<thead>
<tr>
<th>Date</th>
<th>Version</th>
<th>Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>09-Dec-2015</td>
<td>1</td>
<td>Initial release.</td>
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</table>

Table 1: Document revision history
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